Amendments to the Claims:
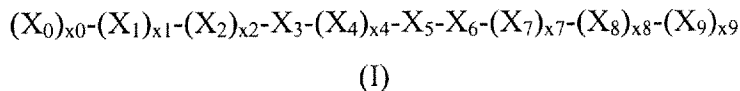
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:
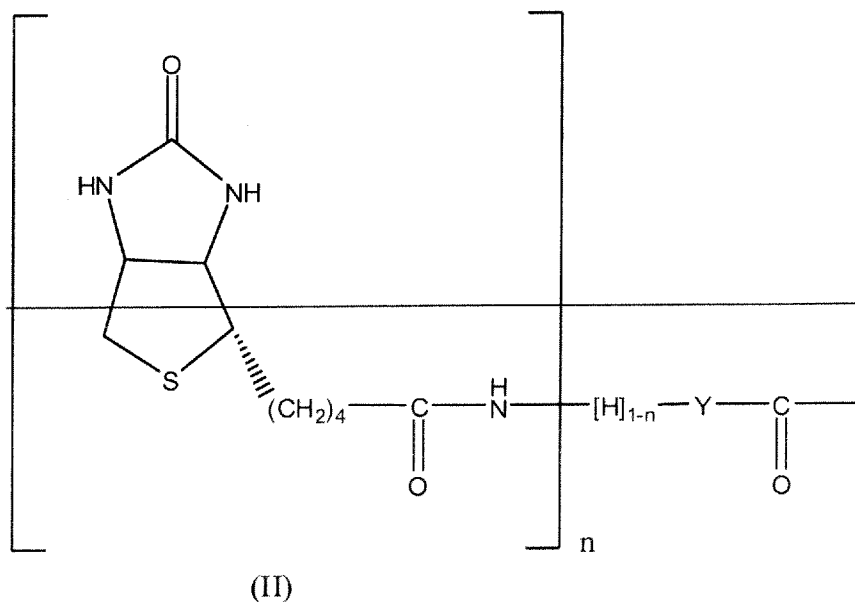
Claims 1-18 (canceled)

Claim 19 (currently amended): A molecule of general formula (I), and the pharmaceutically acceptable salts thereof:
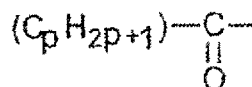
$$(X_0)_{x0}-(X_1)_{x1}-(X_2)_{x2}-X_3-(X_4)_{x4}-X_5-X_6-(X_7)_{x7}-(X_8)_{x8}-(X_9)_{x9}$$

(I)

in which

- x0, x1, x2, x4, x7, x8 and x9 each represent, independently, an integer equal to 0 or to 1;

-X_0 represents a group ~~chosen from those corresponding to formula (II)~~:

(II)

~~in which Y represents a saturated or unsaturated, linear, branched or cyclic C_1-C_{24} alkyl group, n represents an integer chosen from 0 and 1;~~

$$(C_p H_{2p+1})-\underset{\underset{O}{\|}}{C}-$$
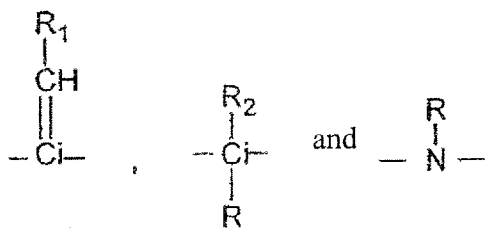

<u>with p ranging from 3 to 23;</u>

-X_1 and X_3 each represent a natural or synthetic amino acid in the L or D configuration, each comprising at least one hydroxyl function on its side chain;

-X_2 represents a natural or synthetic amino acid in the L or D configuration chosen from those comprising an alkyl side chain;

-X_4 represents a natural or synthetic amino acid in the L or D configuration ~~which can be~~ chosen from those comprising an aromatic side chain;

-X_5 represents an amino acid in the L or D configuration chosen from lysine, arginine, histidine, aspartic acid, asparagine, glutamic acid and glutamine;

-X_6 represents an amino acid in the L or D configuration ~~which can be~~ chosen from tyrosine, phenylalanine, leucine, isoleucine, alanine, *para*-benzoylphenylalanine and lysine;

-X_7 represents an amino acid in the L or D configuration ~~which can be~~ chosen from glycine, alanine, leucine, valine, asparagine and arginine;

-X_8 represents an amino acid in the L or D configuration ~~which can be~~ chosen from proline, valine, isoleucine and aspartic acid;

-X_9 represents an amino acid in the L or D configuration ~~which can be~~ chosen from serine, alanine, lysine, arginine and tryptophan;

-the bond between two successive amino acids X_i-X_{i+1}, denoted $q_{i\ to\ i+1}$, i = 1 to 8 can be a peptide

bond $-\underset{\overset{\|}{}}{C}-NH-$ or a pseudopeptide bond chosen from: CO-O, CO-S, CO-CH$_2$, CO-N(Me), NH-CO, CH=CH, CH$_2$-CH$_2$, CH$_2$-S, CH$_2$-O, CS-NH, CH$_2$-NH, CO-CH$_2$-NH, CO-NH-NH, CO-NH-N= and CO-N(NH$_2$);

-the amino acids stated above X_i, i = 1 to 9 being capable of comprising a modification of their α-carbon, denoted C_i, i = 1 to 9 and bearing the side chain R of the amino acid, which modification consisting of the replacement of:

$$-\overset{\displaystyle R}{\underset{\displaystyle H}{\overset{|}{\underset{|}{C_i}}}}-$$

,
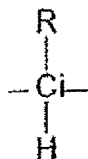
with a group chosen from:

$$-\overset{\displaystyle R_1}{\underset{\displaystyle }{\overset{|}{\underset{\parallel}{\overset{\displaystyle CH}{C_i}}}}}-$$, $$-\overset{\displaystyle R_2}{\underset{\displaystyle R}{\overset{|}{\underset{|}{C_i}}}}-$$ and $$-\overset{\displaystyle R}{\underset{\displaystyle }{\overset{|}{N}}}-$$

,

the groups R and CH-R_1 representing the side chain of the amino acid and R_2
representing a C_1-C_6 alkyl group; R-R_2 can constitute a ring,

-the pseudopeptides of the invention also corresponding to the following conditions:

x0 is equal to 1

or

one of the bonds $q_{i\ to\ i+1}$, i = 1 to 8 is a pseudopeptide bond

or

one of the C_i, i = 1 to 9 comprises one of the modifications stated above, wherein said
molecule of formula (I) is capable of modulating the proteasome.

Claim 20 (previously presented): The molecule as claimed in claim 19, wherein one or
more of the following conditions is verified:

at least one of the integers x0, x1, x2, x4, x7, x8 and x9 is equal to 1;

X_1 and X_3, which may be identical or different, are chosen from threonine and serine;

X_2 is chosen from valine, leucine and isoleucine; or

X_4 is chosen from phenylalanine, tryptophan, tyrosine and *para*-benzoylphenylalanine.

Claim 21 (previously presented): The molecule as claimed in claim 20, comprising 4 to 8
amino acids.

Claim 22 (currently amended): A molecule as claimed in claims 19 to 21, wherein x0 = 1

~~and the acyl chain -Y-CO- is a linear chain which is represented by the formula -$C_p H_{2p}$-CO-, p~~
~~being an integer ranging from 1 to 23.~~

Claim 23 (canceled)

Claim 24 (previously presented): The molecule as claimed in claim 19, wherein one or more of the following conditions are verified:

-at least one of X_1 and of X_3 represents threonine,

-X_2 is chosen from isoleucine and valine,

-X_4 is chosen from phenylalanine, tyrosine and *para*-benzoylphenylalanine, or

-at least 2 of the integers x0, x1, x2, x4, x7, x8 and x9 are equal to 1.

Claim 25 (previously presented): The molecule as claimed in claim 19, wherein the molecule corresponds to formula (Ia):
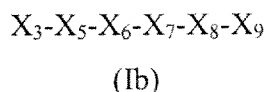
$$X_0\text{-}X_1\text{-}X_2\text{-}X_3\text{-}X_4\text{-}X_5\text{-}X_6$$

(Ia)
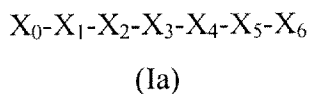
in which the bonds $q_{i\,to\,i+1}$ between the amino acids X_i and X_{i+1}, i = 1 to 5 are peptide or pseudopeptide bonds.

Claim 26 (canceled)

Claim 27 (canceled)

Claim 28 (previously presented): The molecule as claimed in claim 19, wherein the molecule corresponds to formula (Ib):

$$X_3\text{-}X_5\text{-}X_6\text{-}X_7\text{-}X_8\text{-}X_9$$

(Ib)

in which:

-at least one of the bonds between two successive amino acids is a pseudopeptide bond,

or

-one of the α-carbons of one of the amino acids is a modified α-carbon.

Claim 29 (currently amended): The molecule as claimed in claim 19, wherein the molecule is:

CH_3-(C_nH_{2n})-CO-TVTYDY with n=4, 6, 8, 10, 12, 14, 16, 18;

CH_3-(C_nH_{2n})-CO-TISYDY with n=4, 6, 8, 10, 12, 14, 16, 18;

CH_3-(C_nH_{2n})-CO-TVSYKF with n=4, 6, 8, 10, 12, 14, 16, 18;

CH_3-(C_nH_{2n})-CO-TITFDY with n=4, 6, 8, 10, 12, 14, 16, 18;

CH_3-(C_nH_{2n})-CO-TITYKF with n=4, 6, 8, 10, 12, 14, 16, 18;

CH_3-(C_nH_{2n})-CO-TITYEY with n=4, 6, 8, 10, 12, 14, 16, 18;

CH_3-(C_nH_{2n})-CO-TITYDF with n=4, 6, 8, 10, 12, 14, 16, 18;

CH_3-(C_nH_{2n})-CO-TVTYKL with n=4, 6, 8, 10, 12, 14, 16, 18;

CH_3-(C_nH_{2n})-CO-TVTYKY with n=4, 6, 8, 10, 12, 14, 16, 18;

CH_3-(C_nH_{2n})-CO-TVTFKF with n=4, 6, 8, 10, 12, 14, 16, 18;

CH_3-(C_nH_{2n})-CO-TITYDL with n=4, 6, 8, 10, 12, 14, 16, 18;

CH_3-(C_nH_{2n})-CO-TVTFDY with n=4, 6, 8, 10, 12, 14, 16, 18;

CH_3-(C_nH_{2n})-CO-TVTFKF with n=4, 6, 8, 10, 12, 14, 16, 18;

CH_3-(C_nH_{2n})-CO-TVTYKF with n=4, 6, 8, 10, 12, 14, 16, 18;

~~Biot-Ava-TVT-Bpa-KF;~~

~~Biot-Ava-TVT-Bpa-KY;~~

~~Biot-Ava-TVT-Bpa-KL;~~

~~Biot-Ava-TVT-Bpa-DF;~~

~~Biot-Ava-TVT-Bpa-DY;~~

~~Biot-Ava-TVT-Bpa-DL;~~

~~Biot-Ava-TIT-Bpa-KF;~~

~~Biot-Ava-TIT-Bpa-KY;~~

~~Biot-Ava-TIT-Bpa-KL;~~

~~Biot-Ava-TIT-Bpa-DF;~~

~~Biot-Ava-TIT-Bpa-DY;~~

~~Biot-Ava-TIT-Bpa-DL;~~

~~Biot-Ava-TVT-Bpa-EF;~~

~~Biot-Ava-TVT-Bpa-EY;~~

~~Biot-Ava-TVT-Bpa-EL;~~

~~Biot-Ava-TIT-Bpa-EF;~~

~~Biot-Ava-TIT-Bpa-EY;~~

~~Biot-Ava-TIT-Bpa-EL;~~

~~Biot-Ava-TVT-Bpa-NF;~~

~~Biot-Ava-TVT-Bpa-NY;~~

~~Biot-Ava-TVT-Bpa-NL;~~

~~Biot-Ava-TIT-Bpa-NF;~~

~~Biot-Ava-TIT-Bpa-NY;~~

~~Biot-Ava-TIT-Bpa-NL;~~

TNL*GPS;

SEK*RVW;

TRA*LVR;

SNL*NDA; or

THI*VIK;

~~wherein Biot represents a biotinyl group,~~

Ava represents a δ-aminovaleric acid group,

Bpa represents a *para*-benzoylphenylalanine group; and

wherein * represents:

    -a bond chosen from ester, thioester, keto methylene, keto methyleneamino, N-methylamide, inverse amide, Z/E vinylene, ethylene, methylenethio, methyleneoxy, thioamide, methyleneamino, hydrazino, carbonylhydrazone and N-amino bonds, or

    -the presence of an aza-amino acid as a substitution for one of the amino acids adjacent to *.

Claim 30 (previously presented): The molecule as claimed in claim 19 coupled on its C-terminal end and/or on its N-terminal end with another molecule which promotes its bioavailability.

Claim 31 (previously presented): A composition comprising the molecule as claimed in claim 19 in a pharmaceutically acceptable carrier.

Claim 32 (previously presented): A method for prevention and treatment of a disorder or a pathology associated with proteasome activity comprising administering to an animal in need thereof a molecule as claimed in claim 19.

Claim 33 (previously presented): The method of claim 32, wherein the disorder or pathology is selected from: cancers involving hematological tumors or solid tumors; autoimmune diseases; AIDS; inflammatory diseases; cardiac pathologies; pathologies associated with the consequences of ischemic processes at the myocardial, cerebral or pulmonary level; allograft rejection; amyotrophy; cerebral strokes; traumas; burns; and pathologies associated with aging.

Claim 34 (previously presented): A method for radiosensitizing a tumor comprising contacting the tumor with a compound as claimed in claim 19.

Claim 35 (currently amended): A cosmetic and/or dermatological composition comprising a molecule as claimed in claim 19 ~~claim 1~~, in a cosmetically and/or dermatologically acceptable carrier.

Claim 36 (currently amended): A cosmetic process for preventing or treating the appearance of effects of chronological skin aging and/or of photoaging, comprising applying to skin the molecule as claimed in claim 19 in a cosmetically acceptable carrier.

Claim 37 (previously presented): The molecule as claimed in claim 21, wherein the molecule comprises 5 to 7 amino acids.

Claim 38 (previously presented): The molecule as claimed in claim 21, wherein the molecule comprises 6 amino acids.

Claim 39 (previously presented): The molecule as claimed in claim 24, wherein at least 3 of the integers x_0, x_1, x_2, x_4, x_7, x_8 and x_9 are equal to 1.

Claim 40 (previously presented): The molecule as claimed in claim 26, wherein p ranges from 2 to 6.

Claim 41 (previously presented): The molecule as claimed in claim 27, wherein p ranges from 5 to 19.

Claim 42 (previously presented): The method as claimed in claim 32, wherein the animal is a human.

Claim 43 (currently amended): The method of claim <u>33</u> ~~32~~, wherein the pathologies associated with aging <u>are chosen from</u> Alzheimer's disease and Parkinson's disease.

Claim 44 (previously presented): A method for modulating the proteasome of a cell comprising administering the molecule of claim 19 to a cell.

Claim 45 (previously presented): The molecule as claim in claim 19, wherein X_1 and X_3 both represent threonine.